



**Waste Management Plan for
Test Area North Final
Groundwater Remediation
Operable Unit 1-07B**

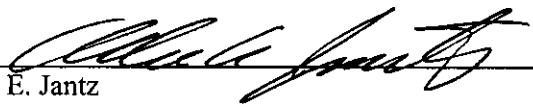
**Waste Management Plan for
Test Area North Final Groundwater Remediation
Operable Unit 1-07B**

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Waste Management Plan for Test Area North Final Groundwater Remediation Operable Unit 1-07B

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ABSTRACT

This waste management plan identifies the waste types and quantities expected to be generated during the implementation of remedial action as addressed in the Record of Decision for Operable Unit 1-07B. Operable Unit 1-07B is located at Test Area North on the Idaho National Engineering and Environmental Laboratory (INEEL). This plan addressed the various waste streams sources and classification, and gives guidance for their disposition. It also addresses the actions necessary to characterize and classify a new waste stream not previously identified. Each type of waste will be managed in accordance with the INEEL M&O Contractor's procedures, as well as state and federal regulations.

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ACRONYMS

AOC	area of contamination
ARAR	applicable or relevant and appropriate requirement
ASTU	air stripper treatment unit
BBWI	Bechtel BWXT Idaho, LLC
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CWSA	CERCLA waste storage area
CWSU	CERCLA waste storage unit
DCE	dichloroethene
DOE-ID	U.S. Department of Energy Idaho Operations Office
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
ER	environmental restoration
ESD	explanation of significant differences
GWTF	Groundwater Treatment Facility
IDEQ	Idaho Division of Environmental Quality
INEEL	Idaho National Engineering and Environmental Laboratory
ISB	in situ bioremediation
ISCO	in situ chemical oxidation
IWTS	interim waste tracking system
LDR	land disposal restriction
MCP	management control procedure
MWSF	Mixed Waste Storage Facility
MWTF	Mixed Waste Treatment Facility
NLCID	no-longer contained in determination

NA	natural attenuation
NPTF	new pump and treat facility
OU	operable unit
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PPE	personal protective equipment
RAWP	remedial action work plan
RCRA	Resource Conservation and Recovery Act
RMA	radioactive materials area
RRWAC	Reusable Property, Recyclable Materials, and Waste Acceptance Criteria
RWMC	Radioactive Waste Management Complex
SAA	satellite accumulation area
SMO	Sample Management Office
SOP	standard operating procedure
SOW	statement of work
TAN	Test Area North
TCE	trichloroethene
TSDF	treatment, storage, and disposal facility
VOC	volatile organic compounds
WGI	waste generator interface
WGS	waste generator services
WMP	waste management plan
WMPPP	waste minimization and pollution prevention plan
WROC	Waste Reduction Operations Complex

Waste Management Plan for Test Area North Final Groundwater Remediation Operable Unit 1-07B

1. PURPOSE AND OBJECTIVES

The purpose of this waste management plan (WMP) is to identify waste streams associated with the Operable Unit (OU) 1-07B remedial action and provide a roadmap and reference to the applicable waste management requirements that are contained in Bechtel BWXT Idaho, LLC (BBWI) company and Environmental Restoration Program documents. The scope of this plan covers industrial, conditional industrial, hazardous, low-level radioactive, and mixed waste generated as a result of the remedial activities associated with OU 1-07B. This plan is supportive of, and subordinate to, the *Waste Certification Plan for the Environmental Restoration Program* (Idaho National Engineering and Environmental Laboratory [INEEL] 1996), the *INEEL Reusable Property, Recyclable Materials, and Waste Acceptance Criteria* (U.S. Department of Energy Idaho Operations Office [DOE-ID] 1999a), hereinafter referred to as the RRWAC, and the applicable BBWI management control procedures (MCPs). The overall scope of OU 1-07B remediation activities are covered in the Phase B remedial action work plan (RAWP) (DOE-ID 1998), Phase C RAWP (DOE-ID 1999b), Phase C operations and maintenance plan (DOE-ID 1999c), and other activity specific work plans. These plans will identify the wastes generated during remediation activities, relate these wastes to the waste streams in this WMP, identify any new waste streams, and refer to this WMP for waste management requirements.

The waste management issues addressed in this plan include:

- Methodologies for identifying and characterizing wastes generated during the remedial action
- Handling sample waste
- Segregating wastes
- Packaging various waste types
- Labeling and inspecting waste types
- Storage areas
- Record keeping and reporting requirements
- Transporting and disposing requirements.

Support to the OU 1-07B project for waste management activities will be provided by BBWI Waste Generator Services (WGS). The WGS personnel will provide this support in accordance with a memorandum of agreement between Environmental Restoration (ER) and WGS, and a task agreement with the OU 1-07B project.

The process and requirements for utilizing support from WGS for waste characterization, storage, treatment, and disposal are covered in the following BBWI waste type specific MCPs:

- MCP-62 Waste Generator Services – "Low-Level Waste Management"
- MCP-63 Waste Generator Services – "Conditional Industrial Waste Management"
- MCP-69 Waste Generator Services – "Hazardous Waste Management"
- MCP-70 Waste Generator Services – "Mixed Low-Level Waste Management."

Waste is currently stored at OU 1-07B using two Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) waste storage units (CWSU) within the OU 1-07B CERCLA waste storage area (CWSA), which is a fenced area within the area of contamination (AOC). The explanation of significant differences (ESD) (INEEL 1997) defines the AOC as "... the area overlying and within the contaminated groundwater plume (i.e., detectable trichloroethene [TCE] concentrations greater than 5 µg/L)." Waste is held in the CWSA pending disposition and/or transfer to one of the following waste management areas at the INEEL:

- Waste Reduction Operations Complex (WROC)
- Radioactive Waste Management Complex (RWMC)
- Mixed Waste Treatment Facility (MWTF)
- Or to an off-Site facility.

Since this is a CERCLA action, storage at the CWSA meets the substantive requirements of Resource Conservation and Recovery Act (RCRA) for temporary storage, except that the 90-day limit for storage is not applicable. The history behind managing these waste streams as RCRA-listed wastes is in the Section 7 of the Phase B RAWP (DOE-ID 1998).

Information related to the polychlorinated biphenyls (PCB) waste management is also contained in Section 7 of the Phase B RAWP (DOE-ID 1998). As addressed in the RAWP, PCB concentrations found to date are below regulatory concern and will be managed "as found." Therefore, management of PCBs is not addressed in this plan. If PCBs are found in concentrations above regulatory concern (50 mg/kg), this WMP will be revised.

Although this document is issued as a stand-alone document, it is intended to be used in conjunction with the Phase B RAWP (DOE-ID 1998) and the Phase C RAWP (DOE-ID 1999b).

2. WASTE STREAMS

2.1 Identification

Waste streams from the various activities associated with remediation of OU 1-07B are identified in Table 2-1. Table 2-2 gives a description of these waste streams. The generated waste streams are profiled and tracked in the interim waste tracking system (IWTS). These IWTS tracking numbers consist of a four-digit number followed by a letter suffix. The suffix indicates the current revision of the profile. The RRWAC (DOE-ID 1999a), requires that the waste profile be reviewed annually.

Waste streams are also identified as part of the *U.S. Department of Energy Idaho Operations Office Idaho National Engineering Laboratory Waste Minimization and Pollution Prevention Awareness Plan* (DOE-ID 1994), hereinafter referred to as the WMPPP, at the INEEL. These identifications for OU 1-07B consist of a 14 character alpha-numeric number that indicates the facility of origin, Test Area North (TAN), the OU (OU 1-07B), and a six digit sequential number.

Table 2-1 shows the correlation between the OU 1-07B waste stream identification, the IWTS profile number, and the WMPPP identification. Table 2-1 also associates the various OU 1-07B remedial activities with the solid waste categories. Waste categories, including industrial, hazardous low-level (radioactive), and mixed, are defined in the RRWAC. Nonhazardous, nonradioactive office and industrial waste streams do not carry a unique identification number. The *Annual Site Treatment Plan Report* (DOE-ID 1996) is used for OU 1-07B incinerable low-level mixed waste. As the remedial action continues, additional waste streams may be identified. Section 2.3 addresses the methodology to be followed when a new waste stream is identified.

2.2 Characterization

All wastes generated are characterized using both chemical and physical analysis of representative samples of the waste streams, as required by 40 Code of Federal Regulations (CFR) 264.13. Based on this characterization, hazardous waste determinations are performed that assign the appropriate U.S. Environmental Protection Agency (EPA) Waste Codes (40 CFR 262.11). After the hazardous waste determinations are completed, the IWTS profile number is assigned and the appropriate information entered into the tracking system. Guidance for completion of the hazardous waste determination, including the appropriate forms to be completed, is given in the applicable BBWI WGS MCP (Section 1). Completed hazardous waste determinations will be maintained for all waste streams as part of the profile package.

A hazardous waste determination uses two approaches to determine if the waste is characteristic waste: (1) process knowledge, including standard protocols for sampling and laboratory analysis that are not specialized RCRA methods and other equivalent regulatory approved methods, and (2) specialized RCRA sampling and analysis for some RCRA regulated materials. Process knowledge influences the amount of sampling and analysis required in order to characterize recyclable materials and waste. The 40 CFR 268 regulation addresses land disposal restrictions (LDRs) for hazardous waste. Additionally, INEEL specific requirements for treatment, storage, and disposal are addressed in the RRWAC.

Table 2-1. Operable Unit 1-07B remedial action waste streams.

OU 1-07B Waste Stream	IWTS Identification	OU 1-07B Identification	Pollution Prevention Identification	Non- Hazardous	Non- Radioactive	Low-Level Mixed Waste ^a	RCRA Listed	RCRA Characteristic ^b
Groundwater Treatment Facility Operations								
Spent Activated Carbon	1936	1-07B-005	TANOU107B000003			XXX	F001	
Multi-media Filter Sand		1-07B-006				XXX	F001	
Spent Ion Exchange Resin	1938	1-07B-007	TANOU107B000001			XXX	F001	
Bag Filters/Sludge	1935	1-07B-008	TANOU107B000002			XXX	F001	
Laboratory Waste	2331 ^c	1-07B-010				XXX	F001	D002 ^d
Bag Filter Rings		1-07B-011				XXX	F001	
Personnel Protective Equipment	1935	1-07B-021				XXX	F001	
Equipment Decontamination Liquid Residue		1-07B-024				XXX	F001	
Equipment Decontamination Solids Residue		1-07B-025				XXX	F001	
Miscellaneous Scrap Metal From System Modifications	2473	1-07B-026				XXX	F001	
1-07B General Waste Streams								
Office Waste				XXX				XXX
Industrial Waste				XXX				XXX

Table 2-1. (continued).

OU 1-07B Waste Stream	IWTS Identification	OU 1-07B Identification	Pollution Prevention Identification	Non- Hazardous	Non- Radioactive	Low-Level Mixed Waste ^a	RCRA Listed	RCRA Characteristic ^b
Personnel Protective Equipment	1935	1-07B-021				XXX	F001	
Contaminated Groundwater		1-07B-022				XXX	F001	
Technical Support Facility (TSF)-05 Sludge		1-07B-023				XXX	F001	
Equipment Decontamination Liquid Residue		1-07B-024				XXX	F001	
Equipment Decontamination Solid Residue		1-07B-025				XXX	F001	
Scrap Carbon and Stainless Steel		1-07B-026				XXX	F001	
Treated Groundwater		1-07B-027				See Note ^c	See Note ^c	
Well Drilling								
Covered by 1-07B general waste streams except as listed below.								
Drill Cuttings Above the Saturated Zone				XXX	XXX			
Drill Cuttings Below Saturated Zone	2319	1-07B-031				XXX	F001	

Table 2-1. (continued).

OU 1-07B Waste Stream	IWTS Identification	OU 1-07B Identification	Pollution Prevention Identification	Non- Hazardous	Non- Radioactive	Low-Level Mixed Waste ^a	RCRA Listed	RCRA Characteristic ^b
Drilling Containment Pad Material		1-07B-032				XXX	F001	
TSF-05 Sludge Sampling and Surge and Stress								
Covered by 1-07B general waste streams except as listed below.								
Sediment, Sand, and Sludge		1-07B-023	TANOU107B000002			XXX	F001	
Hydrogeological Studies								
Covered by 1-07B general waste streams except as listed below.								
Pumped Groundwater		1-07B-022				XXX	F001	
In Situ Bioremediation Field Evaluation								
Covered by 1-07B general waste streams except as listed below.								
In Situ Bioremediation (ISB) Field Evaluation Excess Samples #1		1-07B-041				XXX	F001	
ISB Field Lab Residuals #2 (carbon dioxide, iron, ammonia, phosphate, alkalinity, and bromide)		1-07B-042				XXX	F001	

Table 2-1. (continued).

OU 1-07B Waste Stream	IWTS Identification	OU 1-07B Identification	Pollution Prevention Identification	Non- Hazardous	Non- Radioactive	Low-Level Mixed Waste ^a	RCRA Listed	RCRA Characteristic ^b
ISB Field Lab Residuals #3 (nitrate, chloride, and sulfate)		1-07B-043				XXX	F001	Various ^f
ISB Field Lab Residuals #4 (COD and Light's solution)		1-07B-044				XXX	F001	D002
ISB Air Stripper Treatment Unit (ASTU)								
Covered by 1-07B general waste streams. No ASTU specific waste streams anticipated.								
In Situ Chemical Oxidation Field Evaluation								
Covered by 1-07B general waste streams except as listed below.								
In Situ Chemical Oxidation (ISCO) Field Lab Residuals		To Be Determined						
Groundwater Monitoring and Natural Attenuation Field Evaluation								
Covered by 1-07B general waste streams except as listed below.								
Groundwater Sampling Purge Water		1-07B-022				XXX	F001	
Returned, Unaltered Groundwater Samples		1-07B-022				XXX	F001	

Table 2-1. (continued).

OU 1-07B Waste Stream	IWTS Identification	OU 1-07B Identification	Pollution Prevention Identification	Non- Hazardous	Non- Radioactive	Low-Level Mixed Waste ^a	RCRA Listed	RCRA Characteristic ^b
New Pump and Treat Facility (NPTF) Operations								
Covered by 1-07B general waste streams. No NPTF specific waste streams anticipated.								
a. If the waste does not contain radionuclides above detection limits, the waste will not be low-level mixed waste.								
b. RCRA characteristic wastes per 40 CFR 261.24.								
c. Aqueous samples preserved in nitric acid residue.								
d. If the pH <2.0, then wastes are characteristic D002 waste.								
e. Treated water from the Groundwater Treatment Facility (GWTF) is low-level mixed waste, RCRA-F001 listed. The treated water from the ASTU is low-level waste. The RCRA-F001 listed waste code for ASTU treated water was removed via a no-longer contained-in determination (NLCID) as addressed in Section 2.5. The treated water from the NPTF will be nonhazardous. The RCRA-F001 listed waste code for NPTF treated water will be removed via a NLCID as addressed in Section 2.5.								
f. See hazardous waste determination for characteristic waste codes.								

Table 2-2. Waste stream descriptions.

Waste Stream Number	Waste Stream Description
Groundwater Treatment Facility (GWTF) Waste Streams	
1-07B-001	GWTF Surge Tank Solids—Solids were expected to be introduced into the surge tank during regular operations. Current data indicates that these solids have not accumulated to the extent originally envisioned. These solids are sludge and, if accumulated, will be back-washed to a bag filter and included with Waste Stream 1-07B-008.
1-07B-002	GWTF Verification Tank Solids—Very minor residue that was expected in the verification tank as part of regular operations. Current data indicates that these solids have not accumulated to the extent originally envisioned. These solids are sludge and, if accumulated, will be back-washed to a bag filter and included with Waste Stream 1-07B-008.
1-07B-003	GWTF Backwash Tank Solids—Solids removed from the backwash tank cleaning and general maintenance operation. Current data indicates that these solids have not accumulated to the extent originally envisioned. These solids are sludge and, if accumulated, will be back-washed to a bag filter and included with Waste Stream 1-07B-008.
1-07B-004	GWTF Air Stripper Sump Solids—Solids accumulated in the sump of the air stripper during regular operations. Current data indicates that these solids have not accumulated to the extent originally envisioned. These solids are sludge and, if accumulated, will be back-washed to a bag filter and included with Waste Stream 1-07B-008.
1-07B-005	GWTF Spent Carbon—Any activated carbon that becomes contaminated with TCE, tetrachloroethene (PCE), dichloroethene (DCE), and other volatile organic compounds (VOCs). Each adsorber bed contains approximately 680 kg (1,500 lb) of activated carbon.
1-07B-006	GWTF Multi-media Filter—The multi-media filter is backwashed periodically to remove contaminants. The contaminant material removed is collected in the bag filter and included with Waste Stream 1-07B-008. Eventually the multi-media filter materials will become contaminated with low-level mixed waste due to usage. When back-washing is not sufficient to remove the contaminant material, the contaminated media waste will be dewatered, drummed, and stored at the CWSA pending final disposition through a hazardous waste determination.
1-07B-007	GWTF Spent Resin—Ion-exchange media (resin) is used to remove radionuclides from the groundwater. The media will require changing when ion exchange becomes ineffective. This material will be low-level mixed. The media will be dewatered, drummed, and stored at the CWSA pending final disposition through a hazardous waste determination.
1-07B-008	GWTF Bag Filters and Sludge—Bag filters collect fines and sludge from system operations. This material will be low-level mixed. The filters and solids from the filter will be dewatered, drummed, and stored at the CWSA pending final disposition through a hazardous waste determination. The metal rings from the bag filters will be removed and included in Waste Stream 1-07B-011.

Table 2-2. (continued).

Waste Stream Number	Waste Stream Description
1-07B-009	GWTF Personal Protective Equipment (PPE)—PPE is generated during maintenance of the process system including changing the activated carbon, changing the ion-exchange media, changing the bag filters, and conducting routine maintenance that requires opening portions of the system. This PPE is included in Waste Stream 1-07B-21.
1-07B-010	GWTF Laboratory Waste—Laboratory and sample residues are wastes generated during routine GWTF laboratory operations. These consist of PPE, liquid chemicals, samples, and other waste generated during sampling and analysis activities. Laboratory industrial (sanitary) waste is managed separately and is not included in this waste stream.
1-07B-011	GWTF Bag Filter Rings—Bag filter rings are steel rings within the bag filters that support the filters while in the filter housing. The steel rings are removed and segregated during bag filter change out.
1-07B-012	GWTF Scrap Metal—Miscellaneous scrap metal from system modifications consist of piping (both carbon and stainless steel) and valves. Numerous piping sections have been replaced throughout the facility and well discharge lines. This scrap metal is included in Waste Stream 1-07B-027.
1-07B-013 to 020	Not assigned.
1-07B General Waste Streams	
1-07B-021	PPE—PPE and wipes that have come into contact with contaminated groundwater and/or sludge during 1-07B remediation activities. Such activities include GWTF maintenance, Air Stripper Treatment Unit (ASTU) maintenance, New Pump and Treat Facility (NPTF) maintenance, groundwater sampling, well drilling, well pumping tests, treatability study tests, and equipment decontamination.
1-07B-022	Contaminated Groundwater—Contaminated groundwater from 1-07B remediation activities that has not been mixed with other liquid waste materials. Such activities include GWTF maintenance, ASTU maintenance, groundwater sampling, well drilling, well pumping tests, treatability study tests, and equipment decontamination. Unaltered groundwater samples are also included in this waste stream. This water may be processed through the GWTF, ASTU, or NPTF and reinjected into the aquifer.
1-07B-023	TSF-05 Sludge—Sludge, sand and sediment from well TSF-05 generated during TSF-05 sludge sampling and/or sludge removal activities. This also includes unaltered sludge samples returned from off-Site or on-Site laboratories.
1-07B-024	Equipment Decontamination Liquid Residue—Equipment decontamination liquid residue is that liquid from decontamination processes that contains other waste constituents besides contaminated groundwater (1-07B-022).
1-07B-025	Equipment Decontamination Solids Residue—Equipment decontamination solids residue is the residue that has been removed from equipment during the decontamination process that is not classified as TSF-05 sludge, drill cuttings, or otherwise fits any of the above waste stream descriptions.

Table 2-2. (continued).

Waste Stream Number	Waste Stream Description
1-07B-026	Scrap Carbon and Stainless Steel—Scrap carbon and stainless steel is generated from GWTF, ASTU, and NPTF treatment system modifications. This scrap material includes piping, valves, and other components that are removed during modifications to the treatment systems.
1-07B-027	Treated Groundwater—Treated groundwater is generated through the remedial action groundwater treatment process. Groundwater treatment facilities include the GWTF, ASTU, and NPTF. The treatment process removes VOCs. The ASTU and the NPTF remove VOCs to below MCLs. The GWTF reduces VOC concentrations. All treated groundwater is reinjected into the aquifer.
1-07B-028 to 030	Not Assigned.
	Well Drilling
1-07B-31	Drill Cuttings—Drill cuttings from below the saturated zone are the cuttings generated during drilling activities below the water table. These cuttings consist of fractured basalt and interbed sediments that are brought to land surface and contained in frac tanks. The high-pressure air from the drill rig forces the cuttings from the borehole to the surface where they are captured in the frac tank.
1-07B-032	Drilling Containment Pad Material—Drilling containment pad material consists of gravel and sand used in the construction of well drilling containment pads. Well drilling containment pads are constructed to provide containment of well drilling water that may leak from drill rig diverter seals.
1-07B-033 to 040	Not Assigned.
	Hydrogeological Study and Treatability Study Specific Waste Streams
1-07B-041	In Situ Bioremediation (ISB) Field Evaluation Excess Samples #1—ISB field evaluation excess samples are those groundwater samples collected during the field evaluation that are unaltered and not used. These groundwater samples are included in Waste Stream 1-07B-022.
1-07B-042	ISB Field Lab Residuals #2—ISB field lab residuals are analyzed samples, rinseate, and residue from the field laboratory analysis using field test kits. The analyses under this waste stream include carbon dioxide, iron, ammonia, phosphate, alkalinity, and bromide.
1-07B-043	ISB Field Lab Residuals #3—ISB field lab residuals are analyzed samples, rinseate, and residue from the field laboratory analysis using field test kits. The analyses under this waste stream include nitrate, chloride, and sulfate.
1-07B-044	ISB Field Lab Residuals #4—ISB field lab residuals are analyzed samples, rinseate, and residue from the field laboratory analysis using field test kits. The analyses under this waste stream include chemical oxidation demand. Light's solution for checking the performance of the Hydro Lab Platinum ORP electrode is also included.

2.3 New Waste Stream

Any new wastes streams, not identified in Table 2-1, are required to have the waste projected to be generated, identified, and characterized; a hazardous waste determination completed and presented to the anticipated waste management organization (e.g., WROC waste generator interface [WGI]) for approval by that organization prior to generation. The hazardous waste determination becomes part of the profile package for that waste stream upon approval by the waste management organization. Guidance for completion of the hazardous waste determination, including the appropriate forms to be completed, are given in the applicable BBWI WGS MCP (Section 1). In addition, all identified waste management activities must be in accordance with the requirements of the waste certification plan for the ER program.

2.4 Predicted Waste Quantities

Historical records of waste generation during Groundwater Treatment Facility (GWTF) operations were reviewed, along with projected future operations, to estimate the quantity of each waste stream that may be generated each year for the next 5 years. Table 2-3 presents the estimated quantities of waste that will be generated during the next 5 years by each identified waste stream.

2.5 No-Longer Contained-In Determinations

As identified in the Phase B RAWP and the Phase C RAWP it was determined in April 1997 that the OU 1-07B contaminated groundwater contains the RCRA-listed waste TCE. For contaminated groundwater that contains low to nondetectable concentrations of listed wastes, a no-longer contained-in determination (NLCID) may be requested from the Idaho Division of Environmental Quality (IDEQ). If a NLCID request is approved by IDEQ, then the waste may be dispositioned in accordance with the delisting per the NLCID. A hazardous waste determination will be completed in such cases to document the disposition per the NLCID. The following NLCIDs have been requested and/or approved:

- NLCID for well drilling water from Wells TAN-47, 48, and 50 at 5 ppb—Approved
- NLCID for well drilling water, drill cuttings, and containment pad material—Approved
- NLCID for groundwater from Well ANP-8—Pending
- NLCID for In Situ Bioremediation Air Stripper Discharge —Approved
- NLCID for New Pump and Treat Facility Air Stripper Discharge—Pending.

The NLCIDs that have been approved are attached to this WMP in Appendix A. As pending or future NLCIDs are approved they will be added to Appendix A via a Document Action Request change to this WMP.

Table 2-3. Estimated waste quantities.

Waste Stream	Description	1998 (m ³)	1999 (m ³)	2000 (m ³)	2001 (m ³)	2002 (m ³)
1-07B-001 to 004	Included in 1-07B-008					
1-07B-005	Spent Carbon	3.25	3.25	3.25	3.25	3.25
1-07B-006	Filter Media	0.00	0.80	0.00	0.00	0.00
1-07B-007	Spent Resin	6.34	3.25	3.25	3.25	0.00
1-07B-008	Bag Filters	1.58	1.00	1.00	1.00	1.00
1-07B-009 & 021	PPE	4.36	2.58	1.98	1.98	1.98
1-07B-010	GWTF Lab Waste	1.20	1.00	1.00	0.57	0.57
1-07B-011	Bag Filter Rings	0.03	0.03	0.03	0.03	0.03
1-07B-012 & 026	Scrap Metal	3.62	1.81	0.00	0.00	0.00
1-07B-013 to 020	Not Assigned					
1-07B-022	Contaminated Groundwater	500	500	350	250	250
1-07B-023	Sludge	0.21	0	0	0	0
1-07B-024	Decon Solid Residue	0.00	0.00	0.00	0.00	0.00
1-07B-025	Decon Liquid Residue	0.00	0.00	0.00	0.00	0.00
1-07B-027	Treated Groundwater	98,000	98,000	98,000	245,000	392,000
1-07B-028 to 030	Not Assigned					
1-07B-031	Drill Cuttings	566.00	362.25	141.50	0.00	0.00
1-07B-032	Drilling Containment Pad Materials	252	84	84	0	0
1-07B-033 to 040	Not Assigned	0	0.02	0	0	0
1-07B-041	ISB Excess Samples #1	0	0.02	0	0	0
1-07B-042	ISB Lab Residuals #2	0	0.02	0	0	0
1-07B-043	ISB Lab Residuals #3	0	0.02	0	0	0
1-07B-044	ISB Lab Residuals #4	0	0.02	0	0	0

3. WASTE MANAGEMENT

The *Waste Certification Program for the Environmental Restoration Program* (INEEL 1996) discusses the overall strategy for management of waste generated as a result of the remediation efforts at the INEEL. The following discussions are intended to clarify these strategies as they apply to OU 1-07B.

Wastes generated during remedial activities will be segregated, containerized, labeled, and stored in accordance with the substantive requirements of RCRA. While sufficient quantities of waste are being accumulated to facilitate treatment and/or disposal, the waste will be characterized (as necessary), manifested (as required), and prepared for disposal.

3.1 Waste Minimization and Segregation

Waste minimization for this project is primarily achieved through design and planning to ensure efficient operations and to ensure that wastes are not generated unnecessarily. To the extent possible, only the contaminated portions of waste material will be discarded as regulated waste (e.g., separating soiled portions of PPE from clean portions).

The WMPPP addresses the efforts to be expended and the reports required to track waste generated at the INEEL. The WMPPP directs that the volume of waste generated during INEEL operations be reduced on an annual basis to achieve the ultimate goal of zero waste generated. The waste certification plan (INEEL 1996) contains copies of the WMPPP reports for 1996 and 1997. Activities associated with the OU 1-07B remedial action are intended to meet the requirements for waste minimization as addressed in the WMPPP.

Best management practice directs that all waste and PPE generated inside the controlled area for the remedial action will be managed as potentially contaminated low-level mixed waste or as RCRA-listed waste if they are not radioactively contaminated. Industrial wastes do not require segregation by type. Therefore, containers will be identified as industrial waste and maintained outside the controlled area for separate collection. Contaminated waste will be RCRA-listed or low-level mixed. Both types of contaminated waste will require segregation as either incinerable (e.g., wipes, PPE) or nonincinerable (e.g., drill cuttings), in anticipation of subsequent waste management. Containers for collection of contaminated waste will be clearly labeled to identify waste type and will be maintained inside the controlled area until removed for subsequent management. Waste segregation by type entails separation by source of contamination (e.g., mixed or RCRA-listed), and further separation to designate subsequent management/disposition (e.g., incinerable, compactible, free liquid containing).

3.2 Liquid Wastes

Any waste streams generated during the OU 1-07B remedial actions that contain free liquids will be decanted and the liquid collected. If the liquid is evaluated as compatible with GWTF operation (e.g., do not contain surfactants that will cause foaming in the air stripper), the liquid will be transferred to the GWTF surge tank for processing. If the free liquid is evaluated as not compatible with GWTF operations, it will be stored in containers in the CWSUs pending completion of the hazardous waste determination. These liquids will then be managed in accordance with the hazardous waste determination.

3.3 Laboratory and Sample Waste

The GWTF sample and laboratory waste is managed in accordance with GWTF Standard Operating Procedure (SOP) LAB-001, "Laboratory Waste Disposal," and this WMP. Field laboratory waste generated during in situ bioremediation (ISB) and in situ chemical oxidation (ISCO) field evaluations will be managed in accordance with this WMP. All other laboratory and sample waste is managed in accordance with the statement of work (SOW) issued by the Sample Management Office (SMO) as part of the contract for the subcontracted laboratory and is discussed in greater detail below. Unaltered (unacidified) groundwater samples will be segregated from all other wastes to facilitate possible return to the source.

3.4 Packaging and Labeling

Containers used to store and transport hazardous waste must meet the requirements of 40 CFR 264, Subpart I. The RRWAC contains additional details concerning packaging and container conditions. Appropriate containers for RCRA-listed waste include 208-L (55-gal) drums and other suitable containers that meet the U.S. Department of Transportation (DOT) regulations on packaging (49 CFR 171, 173, 178, and 179) or RRWAC Sections 4.4, 4.5, and 4.6. Wooden boxes $1.2 \times 1.2 \times 2.4$ m ($4 \times 4 \times 8$ ft) and $0.6 \times 1.2 \times 2.4$ m ($2 \times 4 \times 8$ ft) may be used for sizable waste (e.g., piping, valves, drill cuttings, hoses). The WGI will be consulted to ensure the packaging is acceptable to the receiving facility.

Waste containers will be labeled with standard green and yellow CERCLA waste labels. The following information will be included on the containers:

- Unique bar code number
- Name of generating facility (e.g., OU 1-07B)
- Phone number of generator contact
- Listed or characteristic waste code(s)
- Waste package gross weight
- Maximum radiation level on contact and at 1 m in air
- Waste stream or material identification number as assigned by the receiving organization
- Other labels and markings as required by 49 CFR 172, Subparts D and E.

Any of the above information that is not known when the waste is labeled, may be added when the information is known (e.g., gross weight).

The unique bar code serial number is used for tracking and consists of five-digit number followed by a single alpha designator. The alpha designator indicates which facility generated the bar code. Presently, only WROC generates the bar codes and their alpha designator is "K." These bar codes will be furnished by WROC in lots of 50 and kept at the GWTF. A new bar code will be affixed to each container when waste is first placed in the container.

Note: Present practice at the GWTF for labeling waste consists of 1310-W-XXX, where XXX is a sequential number. For approximately the next year this labeling will be on the existing waste containers while the change over to the new labeling method is implemented. As the old containers are relabeled, a cross-reference list will be generated to track both labeling methods.

Any waste shipped off the INEEL from OU 1-07B must be labeled in accordance with applicable DOT labels and markings (49 CFR 172). Additionally, waste labels must be visible, legibly printed or stenciled, and placed so that a full set of labels and markings are visible. See RRWAC Section 4.4, 4.5, or 4.6 for additional labeling information.

The 1-07B SOP-11, "Waste Handling and Tracking and CERCLA Waste Storage Area Maintenance and Inspection," addresses labeling and tracking of all waste containers within the CWSA. The required information entered into the database for tracking includes:

- Waste container unique bar code number
- Waste description
- Physical properties
- Container type
- Generation date
- Waste volume
- Measured volume
- Container location
- Waste stream identification number
- Activity/type
- DOT classification
- EPA waste code(s)
- Gross weight of waste container
- Generation source
- Last inspection date
- Generator name
- Manifest number
- Transporter ID

- Transporter ID
- Date removed
- Notes, as appropriate.

Any of the above information that is not known when the waste is labeled, may be added when the information is known (e.g., transporter ID).

3.5 Storage and Inspection

Wastes will be stored in the CWSA at TAN. Solid wastes segregated as hazardous and/or mixed and placed in 208-L (55-gal) drums, will be stored in the CWSUs, GWTF U-1 and U-2. Wastes placed in wooden storage boxes ($1.2 \times 1.2 \times 2.4$ m [$4 \times 4 \times 8$ ft] and $0.6 \times 1.2 \times 2.4$ m [$2 \times 4 \times 8$ ft]), or other suitable containers too large for the CWSU, will be stored in the CWSA near the CWSUs. Waste segregated as low-level radioactive will be stored in the CWSA in a radioactive materials area (RMA) near the CWSUs.

To meet the substantive requirements of 40 CFR 264, Subpart I, the RCRA applicable or relevant and appropriate requirements (ARARs), an inspection of the storage area (CWSA) will be conducted as part of the weekly waste container inspection. The purposes of the weekly container inspection are to look for containers that are leaking, that are deteriorating due to corrosion or other factors, to ensure that the containment system has not deteriorated due to corrosion, and to verify labels are in place and legible. Inspections of the containers and the CWSA are conducted to meet the guidance contained in MCP-443, "Temporary Accumulation Areas – Large Quantity Generators." The inspections will be documented on weekly inspection form when completed. The checklists (1-07B SOP-11, "Waste Handling and Tracking and CERCLA Waste Storage Area Maintenance and Inspection") used to guide the inspection are maintained in the office at TAN with copies kept at the CWSUs.

When circumstances are such that it is advantageous to collect and temporarily store waste at the point of generation, a satellite accumulation area (SAA) may be established. SAAs shall be established and managed in accordance with MCP 442, "Satellite Accumulation Areas – Large Quantity Generators." The reference to MCP-442 and the associated requirements for establishing, inspecting, and managing an SAA are contained in 1-07B SOP-11, "Waste Handling and Tracking and CERCLA Waste Storage Area Maintenance and Inspection."

Contaminated groundwater that is generated during well drilling, pumping tests, or groundwater monitoring (sampling) activities may be collected in tanks and temporarily stored near the point of generation. Requirements for secondary containment and daily inspection for such interim storage tanks are identified in section 2.5, Inspection Requirements, of the *Phase C Operations and Maintenance Plan, Test Area North Final Groundwater Remediation, Operable Unit 1-07B* (DOE-ID 1999c).

3.6 Waste Transportation and Disposition

At the conclusion of a remedial action, or when deemed necessary, industrial waste will be dispositioned to the INEEL landfill, following the protocols and completing the forms identified by the RRWAC. To achieve the waste management activity, industrial waste will be turned over to TAN operations personnel for management under existing facility waste streams and in accordance with standing facility procedures.

When sufficient quantities of waste has been accumulated to ship to one of the INEEL waste management areas or off the INEEL to a commercial waste management facility, a WGI will be contacted and a BBWI Form 435 completed and submitted for approval, if required. A Form 435 has been completed for the waste streams that have an IWTS profile number (see Table 2-1). As new waste streams are identified, a Form 435 will be completed and approved. Once the Form 435 is approved, the WGI will provide assistance in packaging and transportation of the waste. It is important to note that all waste dispositioned to a permitted treatment, storage, and disposal facility (TSDF) should be labeled as CERCLA, to facilitate eventual management in accordance with the final remedy for the site. Should further characterization of the contaminated waste be necessary (e.g., toxicity characteristic determination), services will be requested from environmental monitoring and the SMO. Requesting these services requires completion of Form L0450-1, "Environmental Special Request Information Log," and Form 435.26, "Sample Management Office Services Request Form."

Management of contaminated wastes, generated at a subcontract laboratory during conductance of analytical testing, will be the responsibility of the subcontract laboratory. However, overall management of the samples must be in accordance with the requirements of MCP-2864, "Sample Management." Specifically, this MCP requires that the facility environmental safety and health manager provide written approval prior to return of any media, and that written documentation of sample disposition be developed and maintained. In addition, the requirements for identification, quantification, characterization, and approval by BBWI WGI and shipping personnel, prior to waste generation, applies to any waste generated during these operations. To initiate the return of these wastes to the INEEL, the subcontract laboratory will notify BBWI in the form of a written report identifying the known volume and characteristics of each waste type, including shipment and packaging details. The majority of the information required for this report will be provided by Form 435 completion. BBWI will assist the subcontractor laboratory in the preparation of these forms. Final authorization for the return of wastes will be provided in writing, from BBWI to the subcontract laboratory. Laboratory wastes will be sent to the Mixed Waste Storage Facility (MWSF) or to the RWMC Type-II Storage Modules, as applicable. It is important to note that all waste dispositioned to a permitted TSDF be labeled as CERCLA, to facilitate eventual management in accordance with the final remedy for the site. An unaltered sample could be immediately returned to its source. The returned material will be addressed with the source material at the site. All waste management activities undertaken by the subcontract laboratory must be in accordance with this plan, the contracted SOW, and the individual work plan.

Currently, all hazardous and mixed waste generated in the remediation efforts of OU 1-07B, not processed through the GWTF or ASTU, are sent to the applicable INEEL waste management area or an off-Site TSDF.

3.7 Records Keeping and Reporting

The following records and reports related to this WMP are required to be maintained as indicated by MCP-443, "Temporary Accumulation Areas–Large Quantity Generator." Some of these may be completed by others, but must be available. These records and reports are to be maintained "at the facility" and include:

- Hazardous waste determinations, characterization information, and statements of process knowledge (by others) 3 years
- CWSA facility inspection reports and log-in, log-out history 3 years
- Training records 3 years

- Documentation with respect to all spills: Life of facility
 - Quantity released calculations
 - Release report and follow-up notifications
 - Spill specific hazardous waste determinations and characterizations.

Waste management information is also recorded and included in the following OU 1-07B project reports:

- Monthly waste management report
- Quarterly operations report.

4. REFERENCES

- DOE-ID, 1994, *U.S. Department of Energy Idaho Operations Office Idaho National Engineering Laboratory Waste Minimization and Pollution Prevention Awareness Plan*, U. S. Department of Energy Idaho Operations Office, DOE/ID-10333 (94) Revision 1, May.
- DOE-ID, 1996, *Annual Site Treatment Plan Report*, U. S. Department of Energy Idaho Operations Office, DOE/ID-10559, September.
- DOE-ID, 1998, *Remedial Action Work Plan Test Area North Final Groundwater Remediation-Phase B, Operable Unit 1-07B*, U. S. Department of Energy Idaho Operations Office, DOE/ID-10629, Revision 0, August.
- DOE-ID, 1999a, *INEEL Reusable Property, Recyclable Material, and Waste Acceptance Criteria*, U. S. Department of Energy Idaho Operations Office, DOE/ID-10381, Revision 9, March.
- DOE-ID, 1999b, *Phase C Remedial Action Work Plan for Test Area North Final Groundwater Remediation, Operable Unit 1-07B*, U.S. Department of Energy Idaho Operations Office, DOE/ID-10679, Revision 0.
- DOE-ID, 1999c, *Phase C Operations and Maintenance Plan for Test Area North Final Groundwater Remediation, Operable Unit 1-07B*, U.S. Department of Energy Idaho Operations Office, DOE/ID-10684, Revision 0.
- INEEL, 1996, *Waste Certification Plan for the Environmental Restoration Program*, Idaho National Engineering and Environmental Laboratory, INEL-96/0043, April.
- INEEL, 1997, *Explanation of Significant Differences from the Record of Decision for the Technical Support Facility Injection Well (TSF-05) and Surrounding Groundwater Contamination (TSF-23) and Miscellaneous No Action Sites, Final Remedial Action, Operable Unit 1-07B, Waste Area Group 1, Idaho National Engineering and Environmental Laboratory*, Idaho National Engineering and Environmental Laboratory, INEEL/EXT-97-00931, November.

Appendix A

No-Longer Contained-In Determinations (NLCID)

- A-1. NLCID for Well Drilling Water from Wells TAN-47, 48, and 50 at 5 ppb—
Approved**
- A-2. NLCID for Well Drilling, Drill Cuttings, and Containment Pad Material—
Approved**
- A-3. NLCID for In Situ Bioremediation Air Stripper Discharge—Approved**

A-1. NLCID for Well Drilling Water from Wells TAN-47, 48, and 50 at 5 ppb—Approved

Approval letter from R.W. Steger, DEQ, to K.E. Hain, DOE-ID, dated September 19, 1997.

A-2. NLCID for Well Drilling Water, Drill Cuttings, and Containment Pad Material—Approved

Approval letter from B.R. Monson, DEQ, to D.N. Rasch, DOE-ID, dated February 9, 1999.

Request letter from K. McNeel, LMITCO, to B.R. Monson, DEQ, dated January 21, 1999.

A-3. NLCID for In Situ Bioremediation Air Stripper Discharge—Approved

Revised notification of change letter from K. McNeel, LMITCO, to B.R. Monson, DEQ, dated November 12, 1999.

Notification of change letter from K. McNeel, LMITCO, to B.R. Monson, DEQ, dated October 20, 1998.

Memo from A.E. Jantz, LMITCO, to Distribution, dated September 25, 1998.

Approval letter from B.R. Monson, DEQ, to C. Koshuta, LMITCO, dated September 17, 1998.

Supplement to request letter from K. McNeel, LMITCO, to B.R. Monson, DEQ, dated August 25, 1998.

Request letter from C.R. Koshuta, LMITCO, to B.R. Monson, DEQ, dated August 7, 1998.